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Marine Instrument Testing—The Need for a National Program, Bivins, L. E. and Russin, E. M., Vol. 19, No. 6, p. 9. *Most marine instruments used for measuring parameters of the marine environment are unreliable and do not perform well. One of the most pressing needs for a national program of testing marine instruments is for a test range for controlled and accurately-monitored field evaluations.*

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Seismic Safety of Nuclear Power Plants, Hou, S., Vol. 19, No. 4, p. 26. *This paper examines current seismic analysis and testing technology, presents a brief review of the guidance provided by federal regulations and industry codes, and characterizes the margins of safety inherent in each principle step in seismic design of nuclear power plants.*

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Measurement of Acoustic Power of High Intensity Sound Sources, Stevens, C. L., Vol. 19, No. 1, p. 7. *This is a report of Working Group of the Institute of Environmental Sciences Acoustics Committee with a procedure for the "High Intensity Acoustic Noise Generator Performance Measurement."*

Shuttle Orbiter Acoustic Fatigue Testing, Stevens, R. A., Vol. 19, No. 2, p. 23. *The rationale of why extensive acoustic fatigue testing is required along with the program objectives and plan and the interim results obtained to date are discussed.*

Environmental Noise Impact of Army Helicopters, Broderson, A. B. and Edwards, R. G., Vol. 19, No. 3, p. 9. *The environmental noise impact of four types of Army helicopters was assessed using a community questionnaire, sound measurements, and a CNR analysis. Community responses were accurately predicted and guidelines for minimizing community impacts were developed.*

A Test Facility for Aircraft Jet Noise Reduction, McGehee, B. L., Vol. 19, No. 4, p. 19, and No. 5, p. 20. *This article details the requirements definition for Boeing's Large Test Chamber and problems involved in acquiring noise data. A general description of the facility is presented in Part I. Design and development plus acoustic calibration is covered in Part II.*

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Space Sciences

The Use of Remote Sensing Imagery for Environmental Land Use and Flood Hazard Mapping, Mouat, D. A., Miller, D. A. and Foster, K. E., Vol. 19, No. 3, p. 19. *Remote sensing techniques were used in four rural Arizona counties to estimate the extent of flooding hazards in urbanized areas and in areas of potential subdivision. In order to map these areas it was necessary to compute hydrologic characteristics, watershed configurations, drainage patterns, and vegetation by using a data step down procedure from LANDSAT and high altitude photography. Parameters for computing drainage patterns and watershed configuration were soil color, texture, image appearance, and vegetation.*

High Intensity Solar Irradiation Testing of UV Optics, Greyerbiehl, J. M. and Oberright, J. E., Vol. 19, No. 4, p. 9. *The use of Cassegrainian telescopes in a space environment for solar observation of short wavelength ultra-violet energy was attempted for the first time on NASA's OSO-8 satellite. The preflight test program to simulate the expected environment on the secondary mirrors and initial data from orbit are presented.*

Application and Utilization of a Space Chamber for the Drying of Books, Documents and Other Materials and Their Decontamination to Prevent Biodeterioration, Koesterer, M. G. and Geating, J. A., Vol. 19, No. 5, p. 29. *A space chamber has been successfully adapted for drying and procedures developed for decontaminating large volumes of materials subject to biodeterioration due to accidental wetting. Materials economically processed include rare books, engineering drawings, blueprints, art work, leather objects and clothing.*

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Evaluation of Environmental Profiles for Reliability Demonstration, Hirschberger, G. and Dantowitz, A., Vol. 19, No. 1, p. 25. *This paper describes the results of a 19-month study to determine the adequacy of the environmental profiles of MIL-STD-781, "Reliability Tests: Exponential Distribution," and provide recommendations for their improvement.*

Combined Environmental Reliability Test (CERT) for Avionics Subsystems, Prather, D. K. and Earls, D. L., Vol. 19, No. 2, p. 11. *A presentation of the initial experimental results of a reliability test approach designed to effectively "fly" avionics equipment in the laboratry under combined environmental conditions. This effort was conducted by the Combined Environment Test Group, Air Force Flight Dynamics Laboratory (AFFDL) as part of an overall Air Force Systems Command program to update reliability test methods for avionics equipment.*

Environmental/Reliability Testing Improvements—Where Are We? Hancock, R. N., Vol. 19, No. 4, p. 30. *A report of the findings of the four IES working groups established to review MIL-STD-781.*

Operational Influences on Avionics Reliability, Baker, R. L. and Kern, G. A., Vol. 19, No. 5, p. 9. *This paper describes the results of a broad study of operational influences on the reliability of airborne avionics equipment. The two primary objectives of the study were to identify the significant factors that influence the reliability of USAF avionics equipments, and to develop mathematical models which relate these factors to the demonstrated (R_d), predicted (R_p), required (R_r) and field operational (R_f) reliability results.*

Alternative Methods for Cost-Effective Reliability Testing, Caruso, H. (Edior), Vol. 19, No. 6, p. 32. *Excerpts from the proceedings of the Chesapeake Chapter, MIL-STD-781 Workshop. Panel members represented test equipment manufacturers and laboratory management.* ■